AMENDMENTS TO THE SPECIFICATION

Please replace the paragraph beginning at line 22, on page 7, (description of Figure 1) with the following three paragraphs:

Figure 1A: Scanning electron micrograph (SEM) of unpurified, pristine nanotube bundles. Scale bar represents 700 nm.

Figure 1B: TEM of a purified single-walled carbon nanotube bundle. The scale bar denotes 30 nm.

Figure 1C: TEM image showing exfoliation of nanotubes (functionalized with Wilkinson's complex) into smaller bundles and individual tubes. Scale bar is 30 nm

Please replace the paragraph bridging pages 7 and 8 (description of Figure 2) with the following three paragraphs:

Figure 2A: Selected regions of background subtracted powder X-ray diffraction spectra of functionalized nanotubes from 2θ values of 5-20°. The reflections can be indexed to a two-dimensional triangular lattice. The *10* peak is shifted from 2θ ~5.43° (raw tubes) to 2θ ~5.92° upon derivatization. Broadening of the peak is also observed.

Figure 2B: The entire diffraction spectra for 2θ values of 5-70° for raw tubes and functionalized nanotube adducts. The Ni-Co (100) and (200) peaks are absent in the functionalized sample. The retention of lattice peaks indicates that the tubes are able to assemble as bundles on solvent removal.

Figure 2C: Selected regions of background subtracted powder X-ray diffraction spectra of as prepared raw nanotubes from 2θ values of 5-20°. The reflections can be indexed to a two-dimensional triangular lattice. The *10* peak is shifted from 2θ ~5.43° (raw tubes) to 2θ ~5.92° upon derivatization.

Please replace the paragraph beginning at line 8, page 8, (description of Figure 3) with the following three paragraphs:

Figure 3A: Atomic force microscopy (AFM) height images of functionalized nanotube adducts. Scale bar is 500 nm. A high density of tubes has been deposited from solution. Aggregates of tubes are exfoliating into smaller bundles.

Figure 3B: Atomic force microscopy (AFM) height images of functionalized nanotube adducts. Scale bar is 100 nm. Image of a single bundle, approximately 15 nm in diameter.

Figure 3C: Atomic force microscopy (AFM) height images of functionalized nanotube adducts. Scale bar is 200 nm. A 3-D view of exfoliating tubes. The bundles and tubes are relatively clean and free of nanoparticulate matter.

Please replace the paragraph beginning at line 15, on page 8, (description of Figure 4) with the following six paragraphs:

Figure 4A: ^{1}H NMR spectra of functionalized nanotubes taken in d_6-DMSO at 298 K. A saturated solution of SWNT-Wilkinson's compound adduct.

Figure 4B: ^{1}H NMR spectra of functionalized nanotubes taken in d_6-DMSO at 298 K. A 40% dilution of the saturated nanotube-Wilkinson's adduct solution of Figure A.

Figure 4C: ^{1}H NMR spectra of functionalized nanotubes taken in d_6-DMSO at 298 K. Wilkinson's compound, $Rh(PPh_3)_3Cl$.

Figure 4D: ^{31}P NMR spectra of functionalized nanotubes taken in d_6-DMSO at 298 K. A saturated solution of SWNT-Wilkinson's compound adduct.

Figure 4E: ^{31}P NMR spectra of functionalized nanotubes taken in d_6-DMSO at 298 K. A 40% dilution of the saturated nanotube-Wilkinson's adduct solution of Figure D.

Figure 4F: ^{31}P NMR spectra of functionalized nanotubes taken in d_6-DMSO at 298 K. Wilkinson's compound, $Rh(PPh_3)_3Cl$.

Please replace the paragraph bridging pages 8 and 9 (description of Figure 5) with the following two paragraphs:

Figure 5A: UV-visible electronic spectra of Wilkinson's complex and of functionalized nanotubes, corrected for solvent. (a). Wilkinson's complex in DMSO. (b). Wilkinson's complex in CH_2Cl_2. (c). Wilkinson's complex diluted with 0.1 M PPh_3 in DMSO by a factor of 2. (d). Solution (a) diluted with PPh_3 in DMSO by a factor of 4. (e). Saturated SWNT-Wilkinson's complex adduct solution in DMSO. (f-j). Successive dilutions of solution (e) with either DMSO or 0.1 M PPh_3 in DMSO. Concentration factors are 40, 20, 16, 10, and 4%, respectively. Both types of solvent dilutions yield the same absorbance data in this region of the spectrum.

Figure 5B: Plot of absorbance at 500 nm vs. increasing dilution of the functionalized SWNT-Wilkinson's complex adduct solution with either neat DMSO or 0.1 M PPh_3 in DMSO.

Please replace the paragraph beginning at line 13, on page 9, (description of Figure 7) with the following two paragraphs:

Figure 7A: Fluorescence emission spectra of functionalized nanotubes in DMSO solution upon excitation at 315, 350, 385, 400, 440, 500, 520, and 600 nm (from left to right), respectively. Note the excitation wavelength dependence of the emission maxima. Emission spectra show fine structure on excitation <385 nm. The emission peaks and presence of

shoulders in the band in the 600-700-nm region correspond to the first emission band of metallic SWNTs.

Figure 7B: Emission spectra upon excitation at 385 nm of a functionalized SWNT-Wilknson's complex adduct solution in DMSO, diluted with acetone and methanol.

Please replace the paragraph beginning at line 22, on page 9, (description of Figure 8) with the following three paragraphs:

Figure 8A: NMR spectroscopy of functionalized adducts. ^{1}H NMR data: CE (2-(aminomethyl)-18-crown-6 ether) in deuterated methanol.

Figure 8B: NMR spectroscopy of functionalized adducts. ^{1}H NMR data: SWNT-CE adduct.

Figure 8C: ^{7}Li NMR data. (i) CE-Li^{+} complex, (ii) SWNT-CE-Li^{+} complex adduct. (iii) LiCl standard.

Please replace the paragraph beginning at line 1, on page 10, (description of Figure 9) with the following three paragraphs:

Figure 9A: Optical characterization of functionalized adducts. Mid-IR of the SWNT-CE adduct.

Figure 9B: Optical characterization of functionalized adducts. Emission spectra of CE (2-(aminomethyl)-18-crown-6) and functionalized SWNT-CE adduct.

Figure 9C: Optical characterization of functionalized adducts. Excitation spectrum of SWNT-CE adduct.